

## WHAT IS CLAIMED IS:

1. A method in a data processing system comprising the steps of:
  - receiving a request by a lookup discovery service to return locator information that facilitates access to a lookup service; and
  - 5 transmitting the request to the lookup service.
2. The method of claim 1, wherein the receiving step includes the step of receiving a request to register with the lookup discovery service.
- 10 3. The method of claim 1, wherein the transmitting step includes the step of transmitting a multicast packet comprising a request to access the lookup service.
- 15 4. The method of claim 1, wherein the transmitting step further includes the step of transmitting a unicast packet comprising a request to access a lookup service.
- 20 5. The method of claim 1 further comprising the steps of:
  - receiving lookup service locator information by the lookup discovery service; and
  - transmitting the locator information to a client.
- 25 6. A method in a data processing system having a client, a lookup discovery service and a lookup service with associated services, the method comprising the steps of:
  - transmitting a request by a client to a lookup discovery service to return locator information for a desired lookup service;
  - receiving the request by the lookup discovery server; and
  - transmitting the request to at least one of a plurality of lookup services.
7. The method of claim 6 further comprising the steps of:
  - receiving locator information by the lookup discovery service; and
  - transmitting the locator information to a client.

8. The method of claim 6, wherein the first transmitting step is further comprised of the step of transmitting a request to register with the lookup discovery service.

9. The method of claim 6, wherein the second transmitting step is further comprised of 5 the step of transmitting a multicast packet from the lookup discovery service to said at least one of a plurality of lookup services.

10. The method of claim 9, further comprising of the step of receiving locator information by the lookup discovery service that facilitates access to a plurality of lookup services.

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11. The method of claim 6, wherein the first transmitting step further includes the step of transmitting a multicast packet to the lookup discovery service.

12. The method of claim 6, wherein the first transmitting step further includes the step of transmitting a unicast packet to the lookup discovery service.

13. A method in a data processing system having a client computer, a lookup discovery service for accessing associated lookup services, and a lookup service containing service stubs for accessing associated services, the method comprising the steps of:

20 transmitting a request by a client to provide locator information for a lookup service; receiving the request by the lookup discovery server; and transmitting the request to at least one of a plurality of lookup services; returning the locator information of the lookup service that satisfies the client's request; and

25 transmitting said locator information from the lookup discovery service to the client.

14. The method of claim 13 wherein the first transmitting step includes the step of transmitting a request for a plurality of lookup services.

15. The method of claim 13 wherein the returning step further includes the step of returning lookup service locator information for a plurality of lookup services.

16. The method of claim 13 wherein the returning step includes the step of returning the  
5 null value if no lookup service satisfying the client's request is found.

*Sub A1* 17. A distributed system with a plurality of services, comprising:  
a first server computer having a memory containing a lookup discovery service for facilitating  
access to at least a second server computer;  
10 a second server computer having a memory containing a lookup service having stubs for  
facilitating access to a plurality of services and having a processor for running the lookup service; and  
a client computer having a memory containing a program that transmits a request to the first  
server computer to provide locator information that provides access to a lookup service associated  
with the second server computer and having a processor for running the program.

15. 18. A system having a first computer with a client and a second computer with a lookup  
service containing stubs used for accessing associated services and a third computer with a lookup  
discovery service containing lookup service locator information for facilitating access to the lookup  
service, the system comprising:

20 means for sending a request by the client to the lookup discovery service identifying one of the  
associated lookup services to be accessed;  
means for receiving the request by the lookup discovery service;  
means for accessing a lookup service that satisfies the client's request;  
means for returning the locator information corresponding to the lookup service; and  
25 means for receiving the locator information by the client.

19. A computer-readable medium containing instructions for controlling a data processing  
system to perform a method for locating a lookup service, the method comprising the following steps:

receiving a request by a lookup discovery service to return locator information that facilitates access to a lookup service; and

transmitting the request to the lookup service.

5 20. The computer-readable medium of 19, wherein the method further comprises the step of receiving a request to register with the lookup discovery service.

10 21. The computer-readable medium of claim 19, wherein the transmitting step further includes the step of transmitting a multicast packet comprising a request to access the lookup service.

15 22. The computer-readable medium of claim 19, wherein the transmitting step further includes the step of transmitting a unicast packet comprising a request to access the lookup service.

20 23. The computer-readable medium of claim 19 further comprising the following steps of:  
receiving lookup service locator information by the lookup discovery service; and  
transmitting the locator information to a client.

25 24. A computer-readable medium containing instructions for controlling a data processing system to perform a method for accessing lookup services, the method comprising the steps of:  
transmitting a request by a client to a lookup discovery service to return locator information for a desired lookup service;

receiving the request by the lookup discovery server; and

transmitting the request to at least one of a plurality of lookup services.

25 25. The computer-readable medium of claim 24, further comprising the following steps of:

receiving lookup service locator information by the lookup discovery service; and  
transmitting the lookup service locator information to a client.

26. The computer-readable medium of claim 24, wherein the first transmitting step is further comprised of the step of transmitting a request to register with the lookup discovery service.

27. The computer-readable medium of claim 24, wherein the second transmitting step is  
5 further comprised of the step of transmitting a multicast packet from the lookup discovery service to said at least one of a plurality of lookup services.

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